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AMENDMENTS TO THE CLAIMS:

This listing of claims replaces all prior versions and listings of claims in the application:

LISTING OF CLAIMS:

1. (Currently Amended) A resonator ~~working for use~~ with bulk acoustic waves, realized in a layer structure (SA) the resonator comprising:
 - a wafer;
 - a layer structure above the wafer;
 - a dielectric layer above the layer structure, the dielectric layer comprising a hermetic encapsulation for the resonator, the dielectric layer comprising a material and having a thickness that result in a first acoustic impedance; and
 - a metal layer above the dielectric layer, the metal layer comprising a material and having a thickness that result in a second acoustic impedance, the second acoustic impedance being higher than the first acoustic impedance, the metal layer and the dielectric layer being parts of an acoustic mirror for bulk acoustic waves in the resonator;
- wherein the layer structure comprises:
 - [[-]] ~~at least one~~ first and ~~one~~ second electrode layer (ES1, ES2) layers that comprise ~~serve as~~ electrodes for the resonator[[,]]; and
 - [[-]] at least one piezoelectric layer (PS) that is ~~arranged~~ between ~~two of~~ said ~~above mentioned~~ the first and second electrode layers[[,]]
 - wherein said layer structure is arranged on a wafer (SU),

~~wherein the total surface of layer structure is covered with a dielectric layer (DS)~~
~~and said dielectric layer is covered with a metal layer (MS),~~
~~wherein said dielectric layer builds a hermetic encapsulation for said resonator,~~
~~wherein the material and thickness of said dielectric layer and said metal layer are~~
~~chosen in such a manner that said layers respectively represent one layer of relatively low~~
~~acoustic impedance and one layer of relatively high acoustic impedance and form an~~
~~acoustic mirror for the bulk acoustic waves generated within said resonator.~~

2. (Currently Amended) The resonator according to of claim 1, wherein in which
~~the layer~~ thicknesses of the dielectric layer (DS) and the metal layer (MS) ~~lie in the~~ are in a
range of a quarter wavelength of the bulk acoustic waves or in ~~the~~ a range of an odd
multiple of a the quarter wavelength.

3. (Currently Amended) The resonator of claim 1 according to claim 1 or 2, in
~~which said~~ wherein the acoustic mirror (AS) comprises at least one other layer pair
arranged above ~~said~~ the metal layer (MS), ~~said the at least one other~~ layer pair ~~consisting~~
~~of one~~ comprising a layer of relatively low acoustic impedance (L) and ~~one~~ a layer of
relatively high acoustic impedance (H).

4. (Currently Amended) A component having comprising:

a plurality of resonators ~~according to one of the claims 1 through 3, in which said resonators (R1, R2) are realized within said layer structure (SA) and that are~~ electrically interconnected by ~~said electrode layers (ES) and to~~ form at least a portion of a circuit[[,]]; ~~wherein said dielectric layer (DS) and said metal layer (MS) and, if present, said at least one other layer pair (NI, HI) cover all of said resonators and represent said acoustic mirror (AS) for them.~~

wherein the plurality of resonators comprise:

a wafer

layer structures on the wafer;

a dielectric layer above the layer structures, the dielectric layer comprising a hermetic encapsulation for the plurality of resonators, the dielectric layer comprising a material and having a thickness that result in a first acoustic impedance; and

a metal layer above the dielectric layer, the metal layer comprising a material and having a thickness that result in a second acoustic impedance, the second acoustic impedance being higher than the first acoustic impedance, the metal layer and the dielectric layer being parts of an acoustic mirror;

wherein each of the layer structures comprises first and second electrode layers that comprise electrodes, and at least one piezoelectric layer that is between the first and second electrode layers

~~wherein said dielectric layer (DS) and said metal layer (MS) and, if present, said at least one other layer pair (NI, HI) cover all of said resonators and represent said acoustic mirror (AS) for them.~~

5. (Currently Amended) The component according to of claim 4, in which said wherein the dielectric layer (DS) is comprises an organic layer.

6. (Currently Amended) The component according to of claim 5, in which said wherein the dielectric layer (DS) comprises benzocyclobutenes.

7. (Currently Amended) The component according to one of the claims 4 through 6, in which said of claim 4, wherein the dielectric layer (DS) is over substantially an entire produced on the total surface of said the wafer (SU) and over all the plurality of resonators (R1, R2) and is approximately planarized, a top surface of the dielectric layer being substantially planar such so that the layer thicknesses of the dielectric layer needed to implement the for said acoustic mirror (AS) are maintained only over said the plurality of resonators.

8. (Currently Amended) The component according to one of the claims 4 through 7, in which additional of claim 4, further comprising:

active or passive circuit elements (SE) of another construction style are arranged on or within said the wafer (SU) and integrated together with said the plurality of resonators (R1, R2) into one or more circuits, wherein said layers forming said the acoustic mirror (SA) build comprise an encapsulation for said the active or passive circuit elements components and said the plurality of resonators.

9. (Currently Amended) The component according to one of the claims 4 through 8, in which all of claim 8, wherein the plurality of resonators (R1, R2) and said the active and or passive circuit elements (SE) are integrated into comprise parts of a circuit on the said wafer (SU), this the circuit being chosen from comprising one or more of a high-frequency circuit, an adaptation circuit, an antenna circuit, a diode circuit, a transistor circuit, a highpass filter, a lowpass filter, a bandpass filter, a filter of having a tunable frequency, a power amplifier, a preamplifier, an LNA, a diplexer, a duplexer, a multifilter, a coupler, a directional coupler, a memory element, a balun, a mixer, or and an oscillator.

10. (Currently Amended) An apparatus comprising: component according to one of the claims 4 through 9, in which other plural components according to claim 4 of the same type are arranged on said wafer (SU).

11. (Currently Amended) The component according to one of the claims 1 through 10, in which said of claim 4, wherein the dielectric material of relatively low acoustic impedance is comprises a low-k dielectric.

12. (Currently Amended) The component according to one of the claims 1 through 11, in which the material of relatively high acoustic impedance is selected from of claim 4, wherein the metal layer comprises at least one of tungsten W, molybdenum Mo, gold Au or aluminum nitride AlN.

13. (Currently Amended) The component according to claim 12, in which of claim 11, wherein the low-k dielectric comprises at least one of an aerogel, a porous silicate, an organosilicate, a siloxane derived from condensed silsesquioxanes, a polyaromatic compound, a cross-linked polyphenylene, and or a polymerized benzocyclobutene is selected as low k dielectric.

14. (Currently Amended) The component according to one of the claims 1 through 13, in which said of claim 4, wherein the wafer (SU) exhibits, on its has a surface[[,]] comprising solderable contacts[[, which]] that are electrically connected in an electrically conducting manner to said to the plurality of resonators (R1, R2) or to one or more of a plurality of said active and/or passive components (SE) integrated with said the plurality of resonators in circuits.

15. (Currently Amended) The component according to one of the claims 1 through 13, in which said of claim 4, wherein the wafer (SU) exhibits, on its has an underside[[,]] that comprises solderable connecting terminals, which are connected in an the solderable connecting terminals being electrically conducting manner to said connected to the plurality of resonators (R1, R2) or to one or more of a plurality of said active and/or passive components (SE) integrated in circuits with said the plurality of resonators in circuits by means of via feed-throughs within said in the wafer.

16. (Currently Amended) The component according to one of the claims 1 through 14, designed as of claim 4, wherein the component comprises a bulk acoustic wave resonator, a stacked crystal filter, or a coupled resonator filter.

17. (New) The component of claim 4, wherein the acoustic mirror comprises at least one other layer pair arranged above the metal layer, the at least one other layer pair comprising a layer of relatively low acoustic impedance and a layer of relatively high acoustic impedance.

18. (New) The resonator of claim 1, wherein the dielectric material comprises a low-k dielectric comprising at least one of an aerogel, a porous silicate, an organosilicate, a siloxane derived from condensed silsesquioxanes, a polyaromatic compound, a cross-linked polyphenylene, and a polymerized benzocyclobutene

19. (New) The resonator of claim 1, wherein the metal layer comprises at least one of tungsten W, molybdenum Mo, gold Au or aluminum nitride AlN.

20. (New) The resonator of claim 1, wherein the wafer has a surface comprising solderable contacts that are electrically connected to the resonator or to one or more of a plurality of active and/or passive components.